

Fig. 1

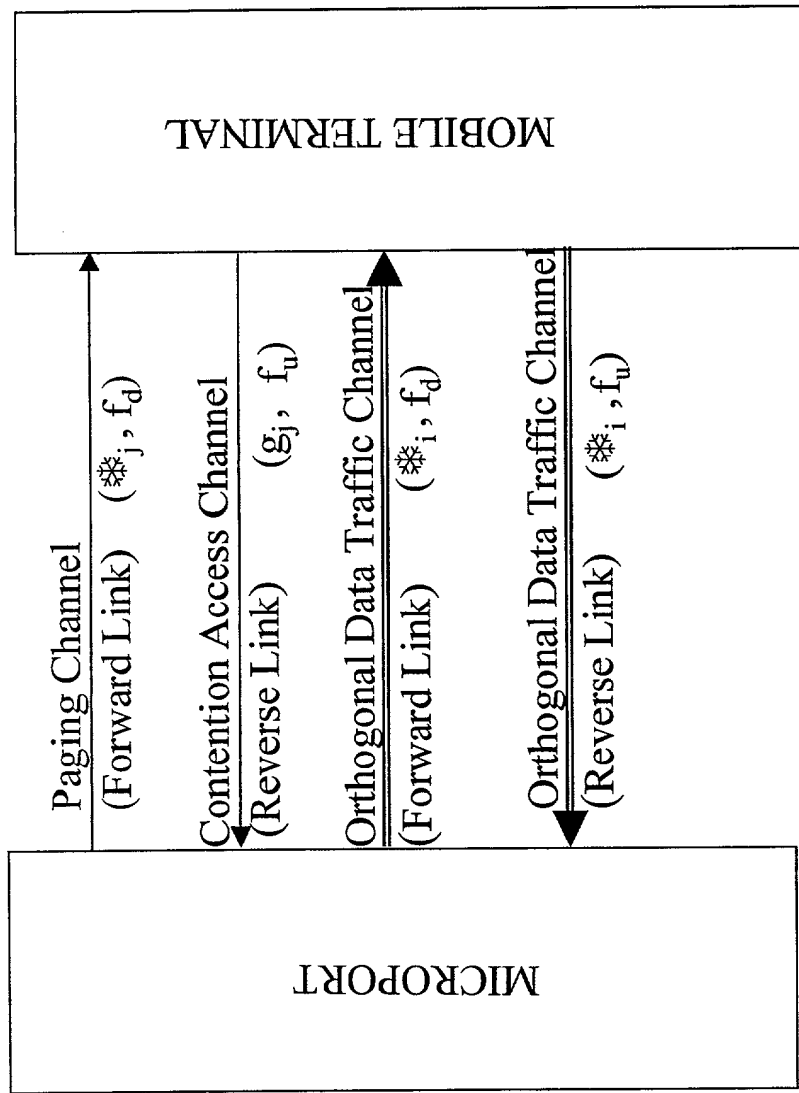


Fig. 2

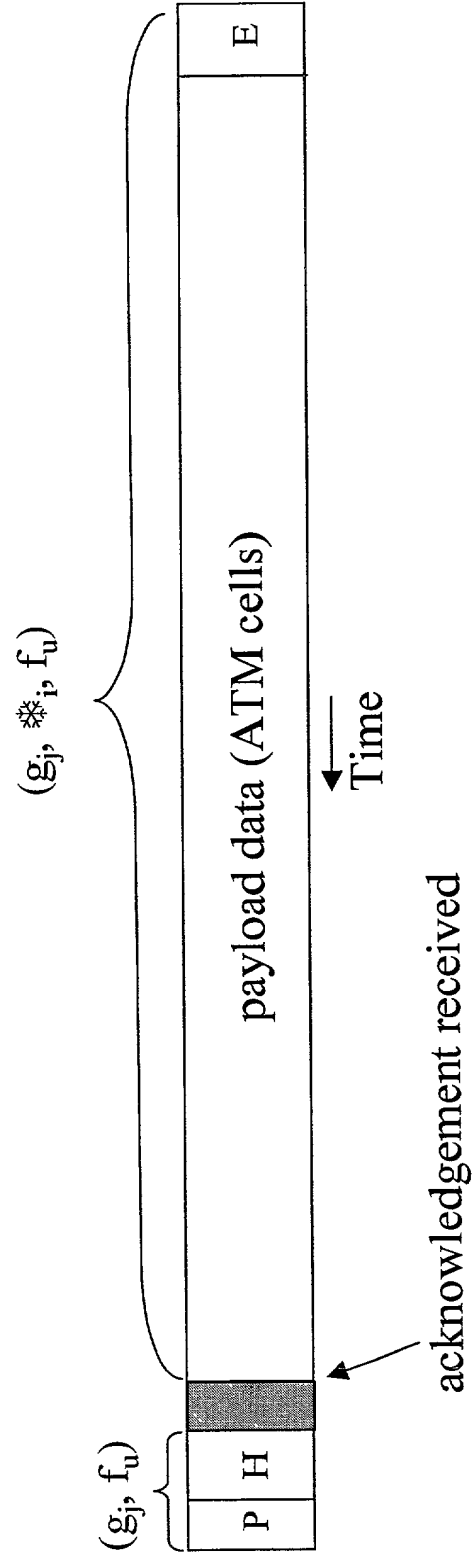


Fig. 3a

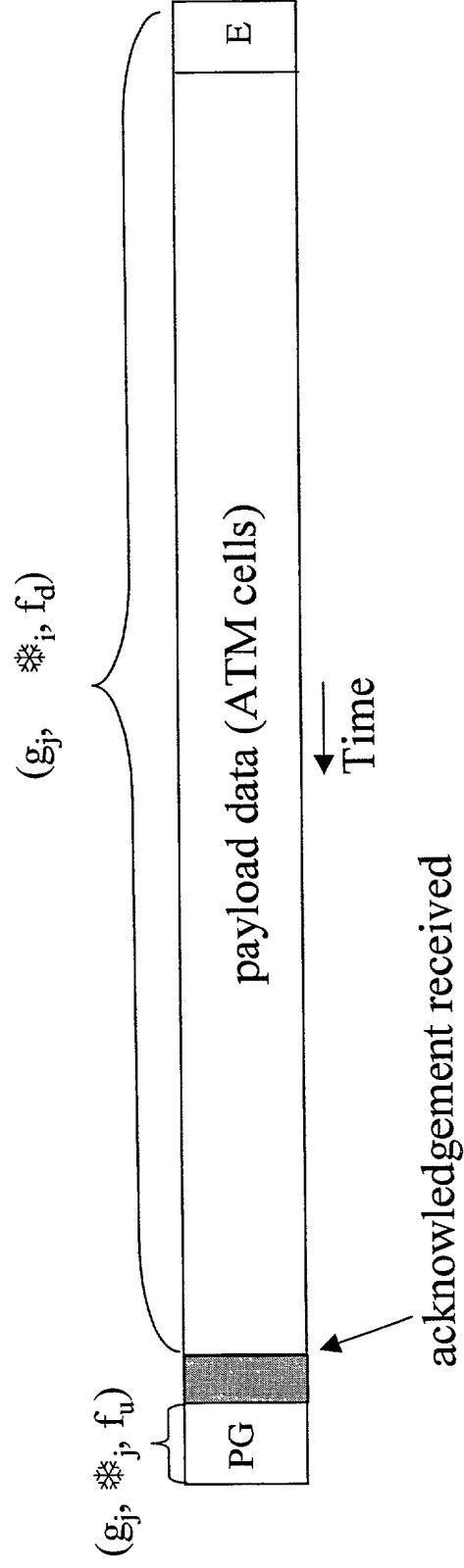


Fig. 3b

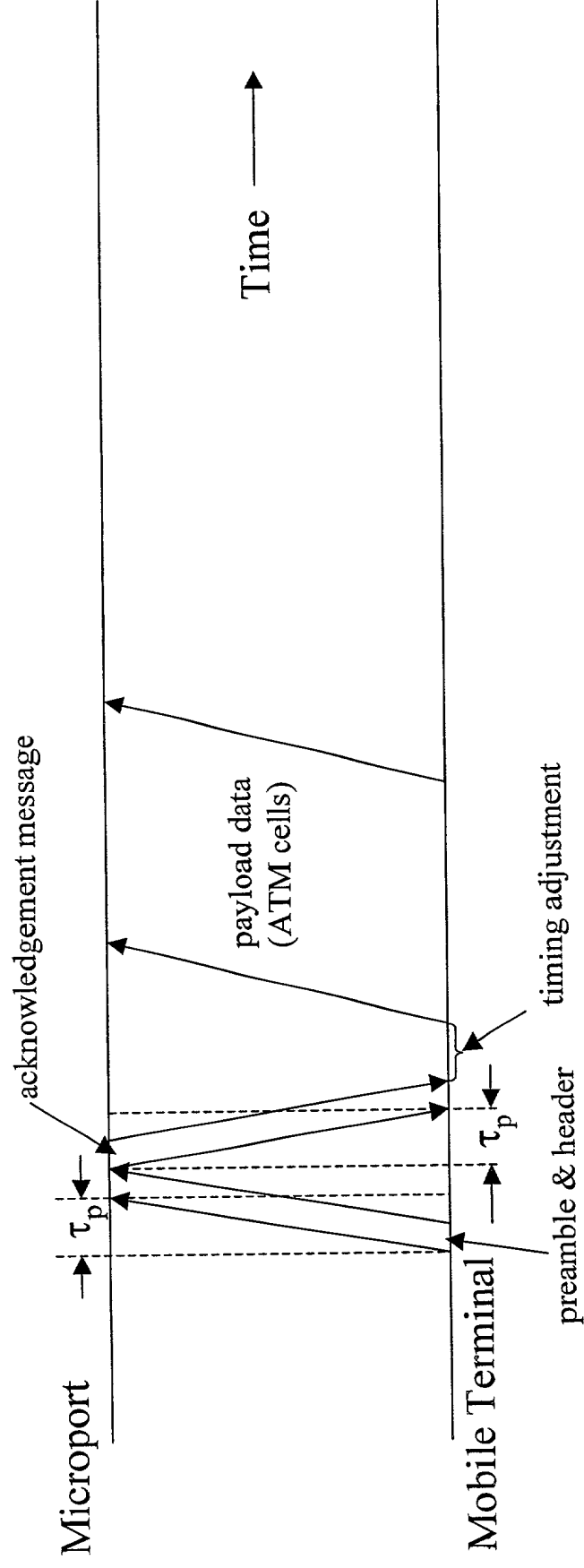


Fig. 4a

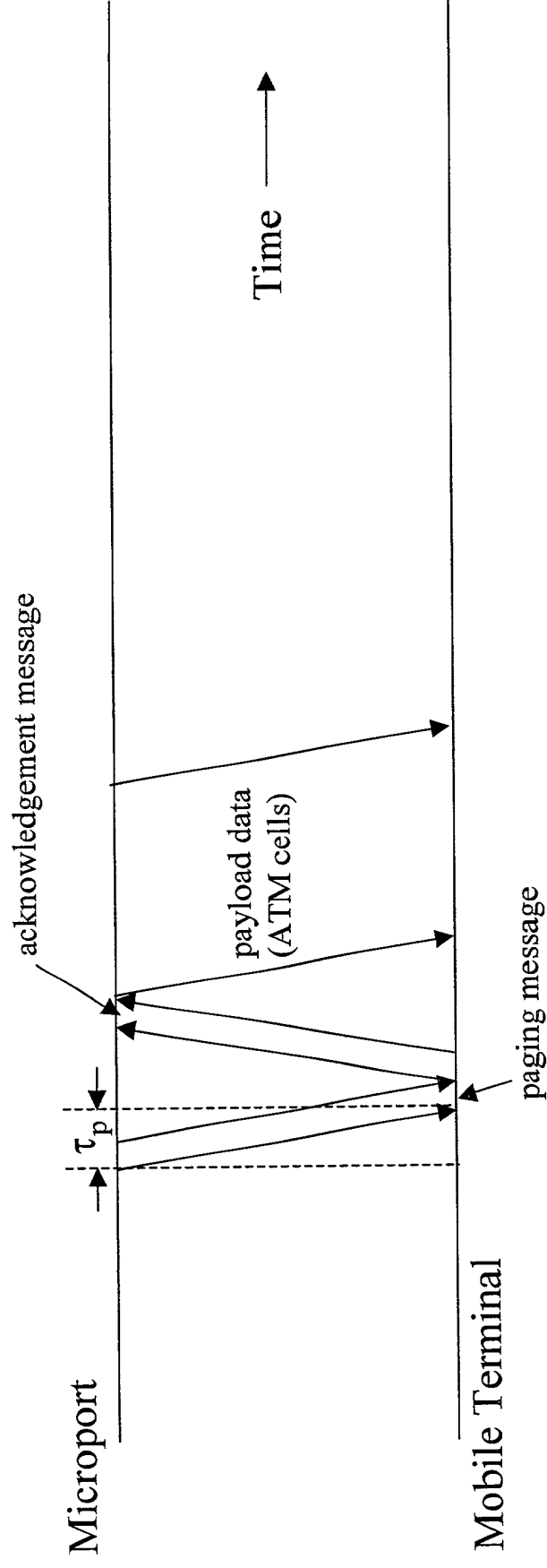


Fig. 4b

START

The mobile subscriber terminal transmits a preamble signal spread by a PN-code  $g_j$  (identifying the microport) and "marks" the point of the time origin. Following the preamble, a few bits of data are transmitted that identify the transmitting mobile user. This constitutes the packet header and is also spread by the PN-code  $g_j$ .

After an acknowledgement is received within time out period, the mobile subscriber terminal spreads the information and data (i.e., ATM cell) by both the assigned orthogonal code (contained in the acknowledgement.) and the PN-code. The mobile subscriber terminal also adjusts its transmission time (with respect to the marked point maintained by the microport) by the amount indicated in the acknowledgement so that all transmissions are synchronized. If no acknowledgement is received within time out the mobile retransmits the preamble and header.

After the end of the information and data, the mobile subscriber terminal sends an end of packet flag, which is also spread by the orthogonal and PN codes. The assigned orthogonal code is released, making that unique code available for reuse.

END

Fig. 5a

Start

520

The microport receiver acquires (synchronizes to) the PN-code  $g_j$  during the transmission of the preamble. The header is received and also despread by the PN-code.

525

If the header data is successfully received, the receiving microport send an acknowledgement containing an uniquely assigned orthogonal code for the originating mobile user and the required timing adjustments for the mobile user.

530

The receiving microport receives the information and data (payload data) and processes the data by despreading the information and data with both the assigned orthogonal code and the PN-code.

535

If the information and data are successfully received, then an ATM packet (cell) is created and routed through the core network. After the end of packet flag is received then the assigned orthogonal code is released.

End

Fig. 5b



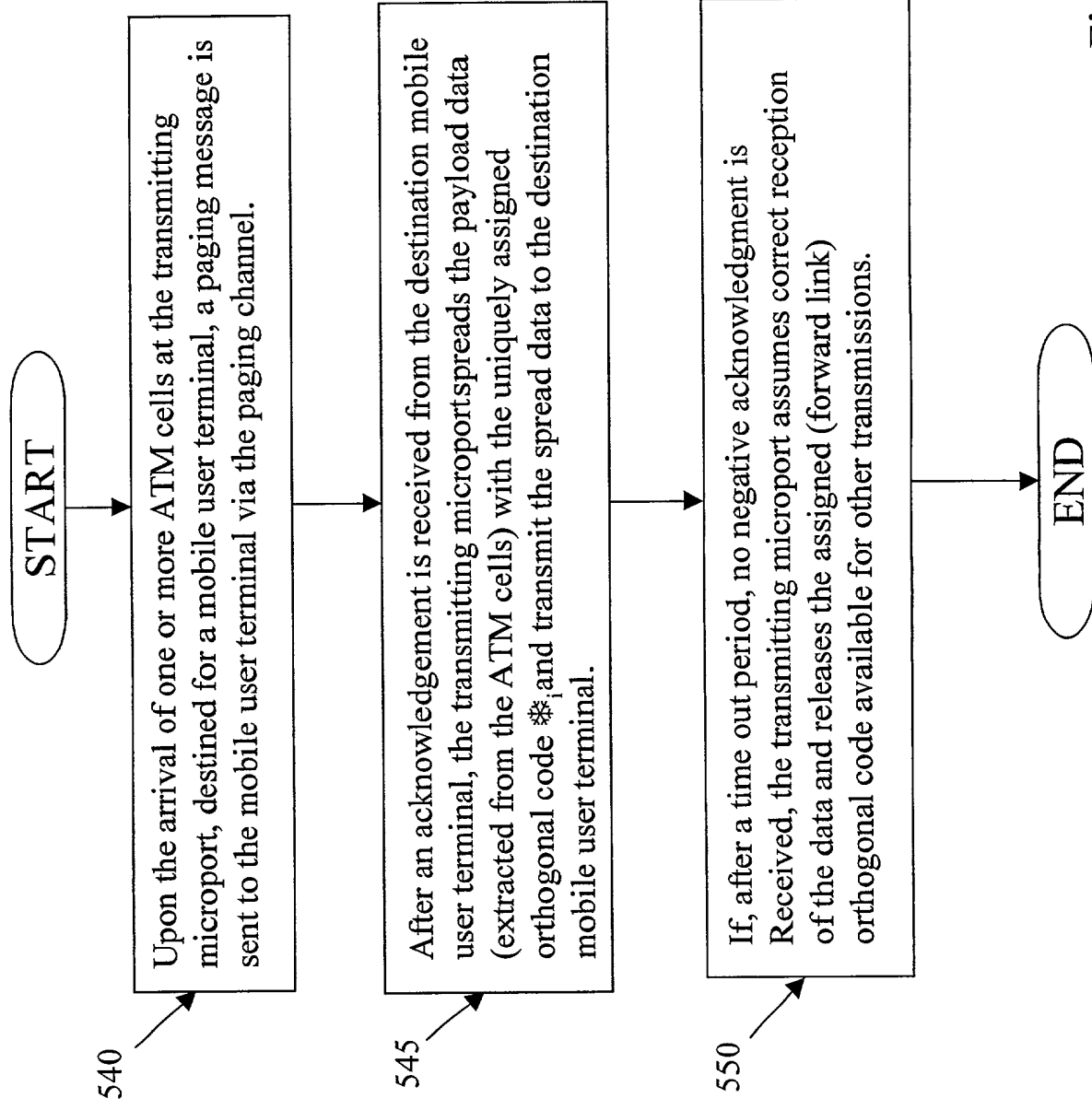


Fig. 5c

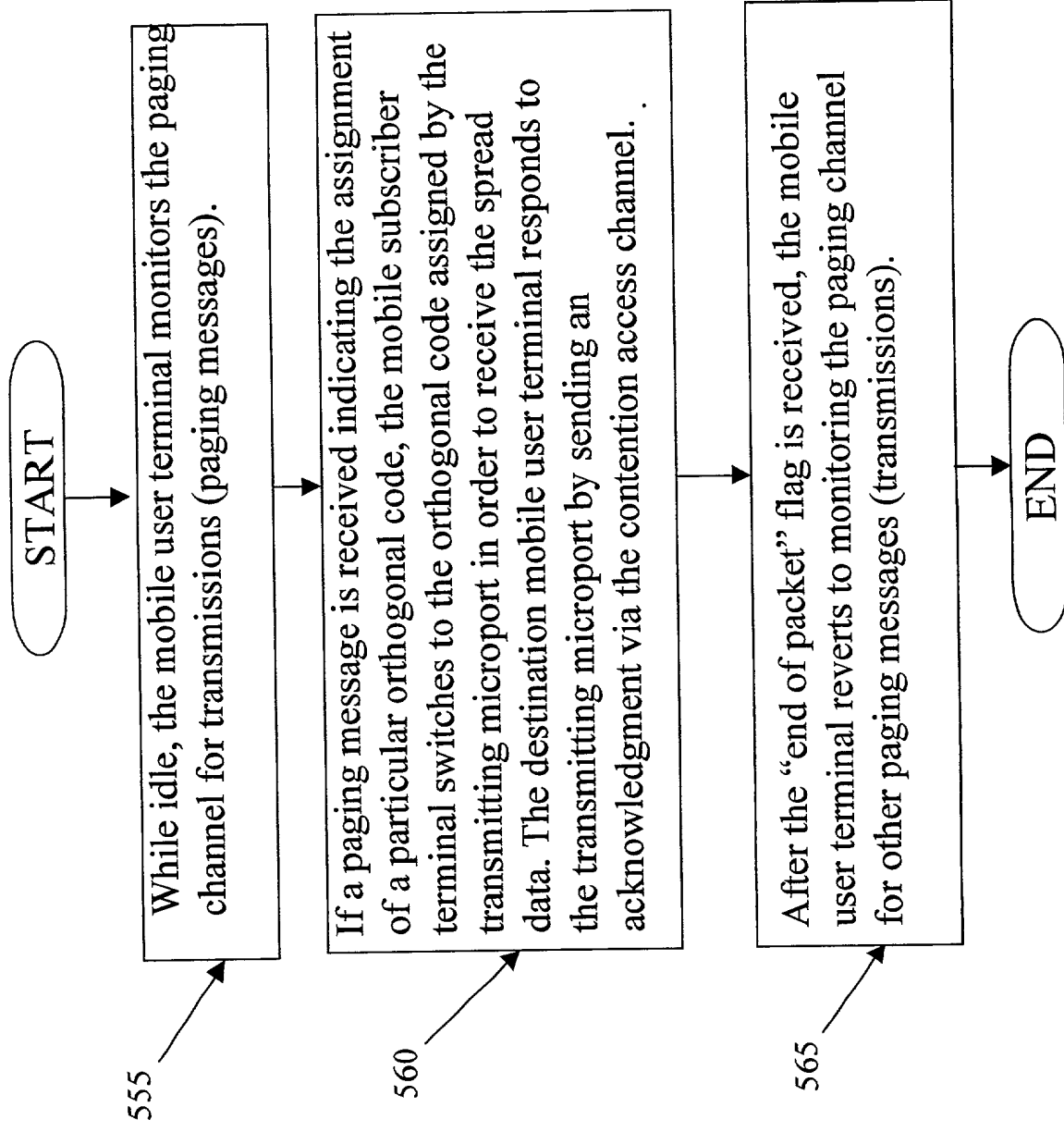


Fig.5d

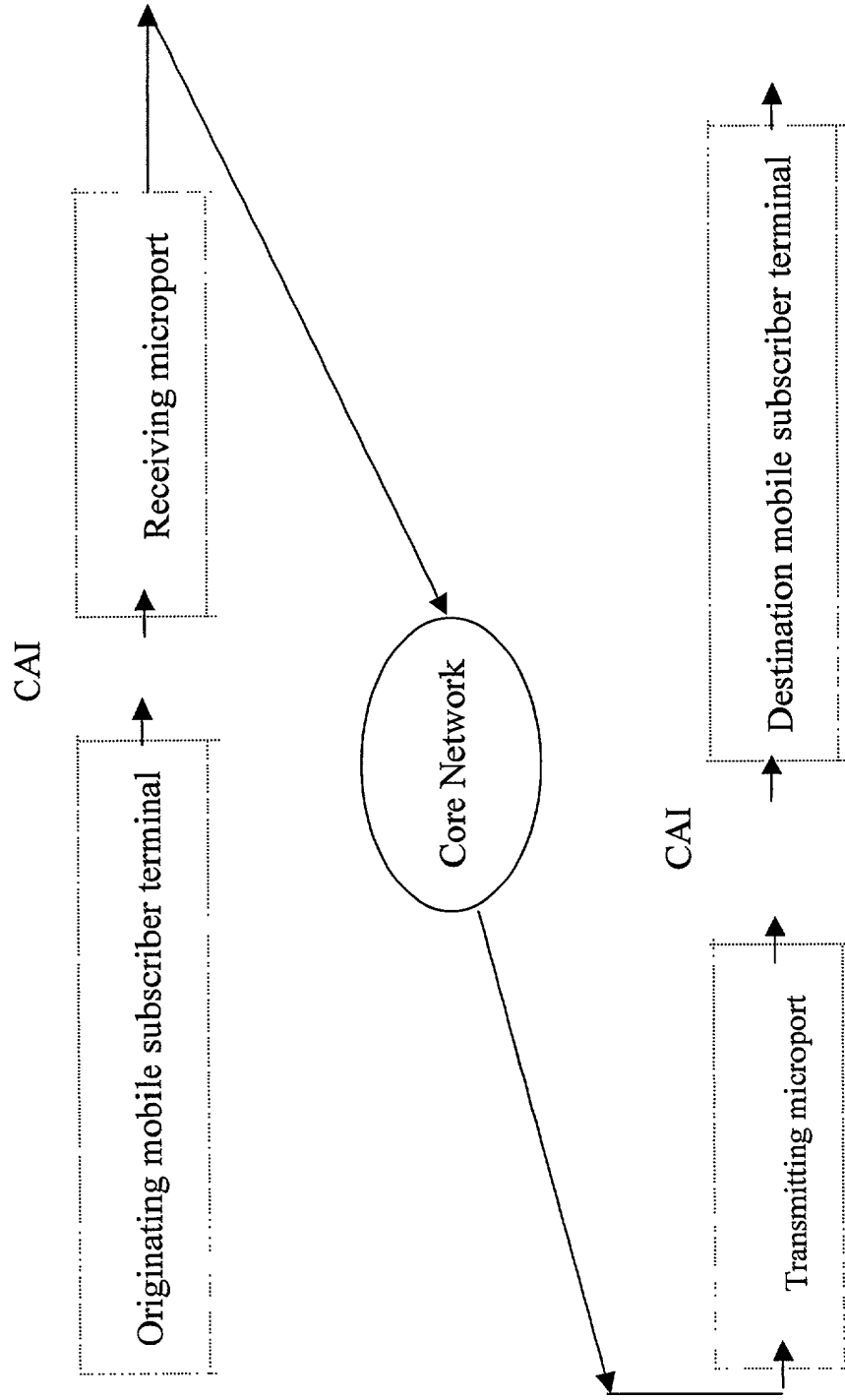


Fig. 6

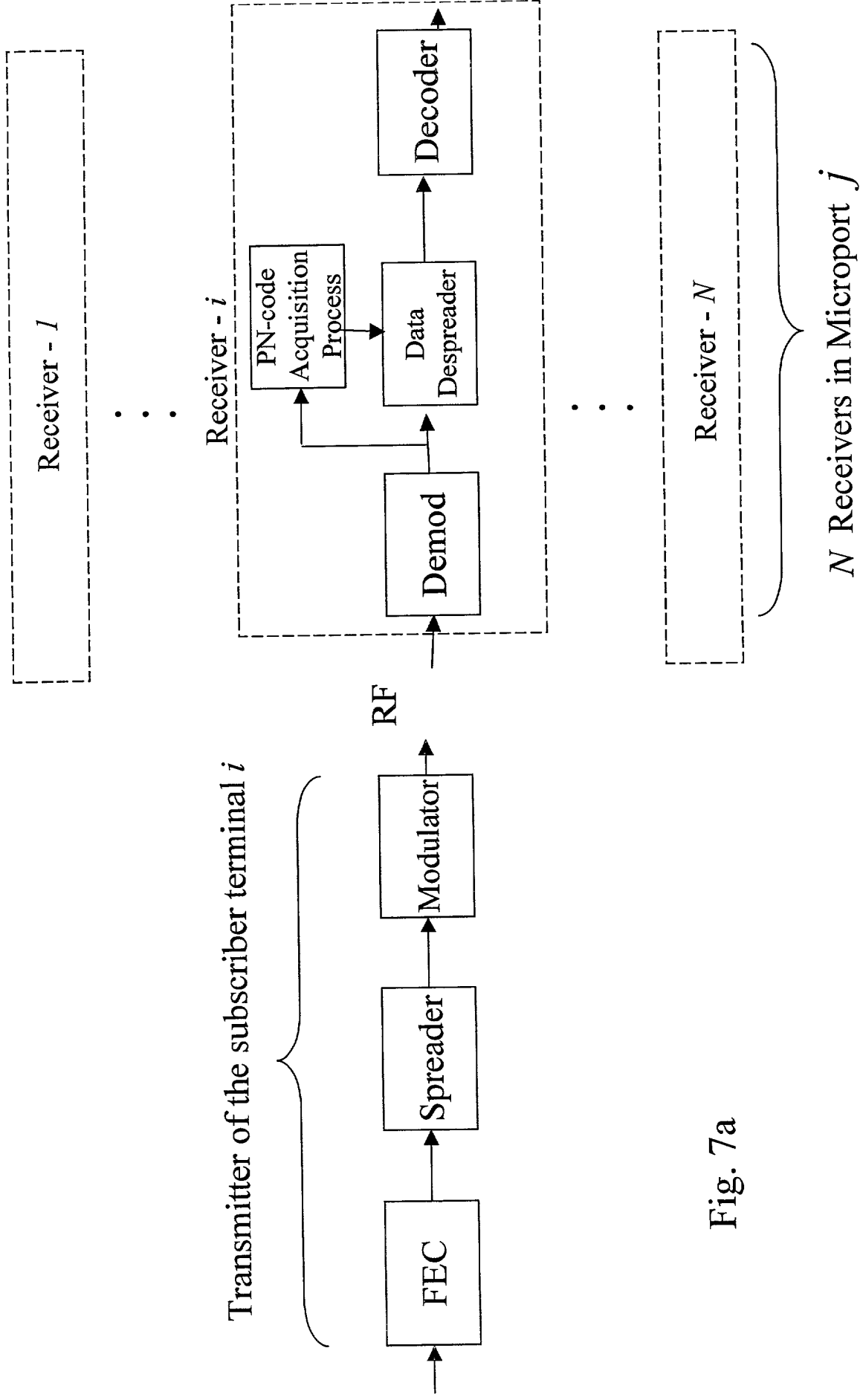


Fig. 7a

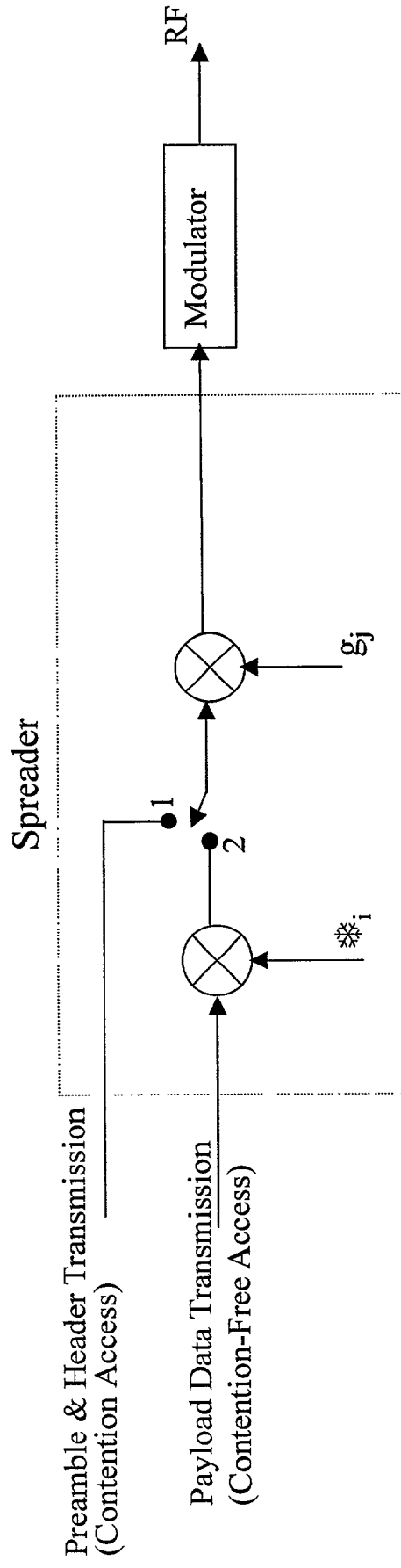


Fig. 7b

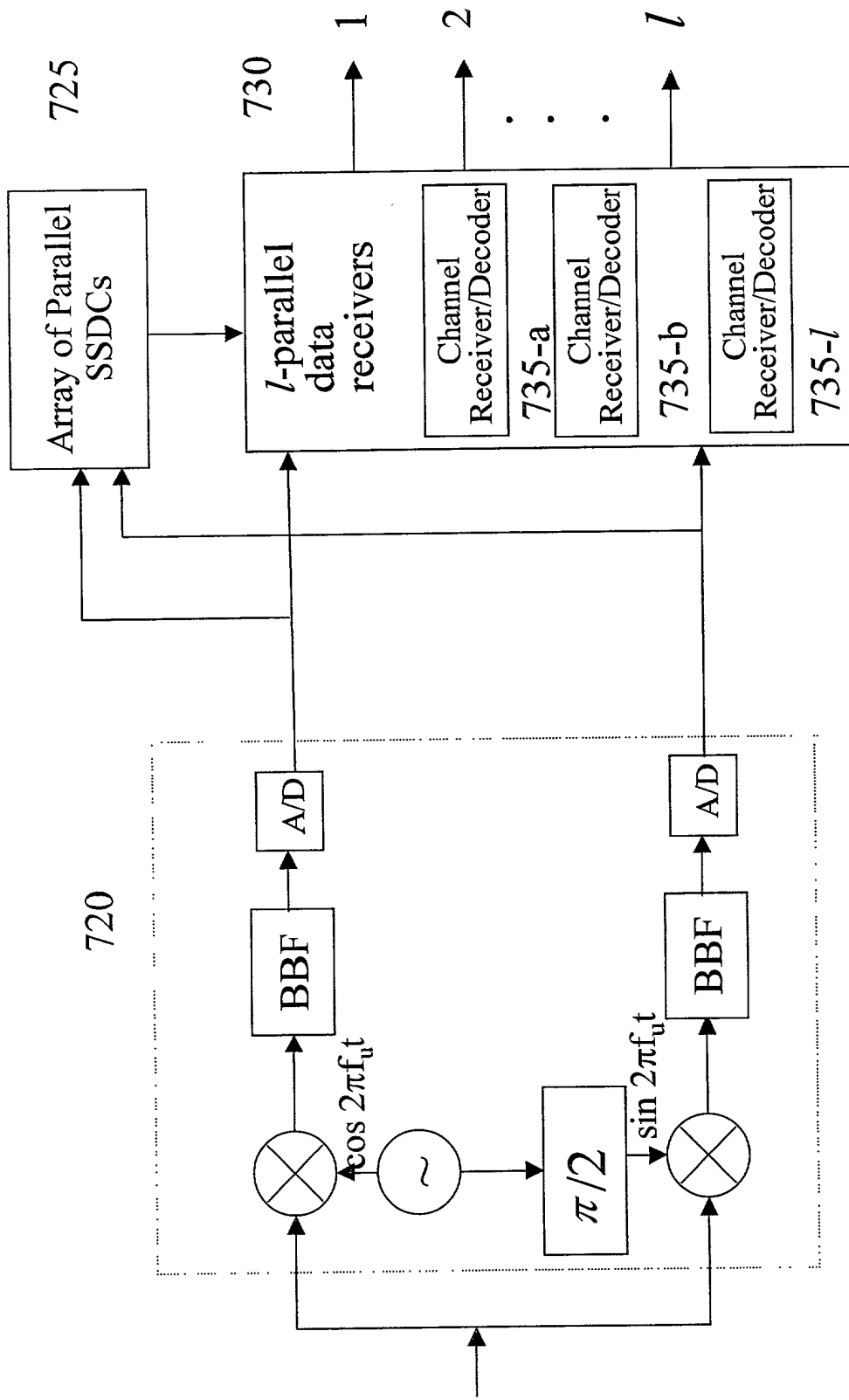


Fig. 7c

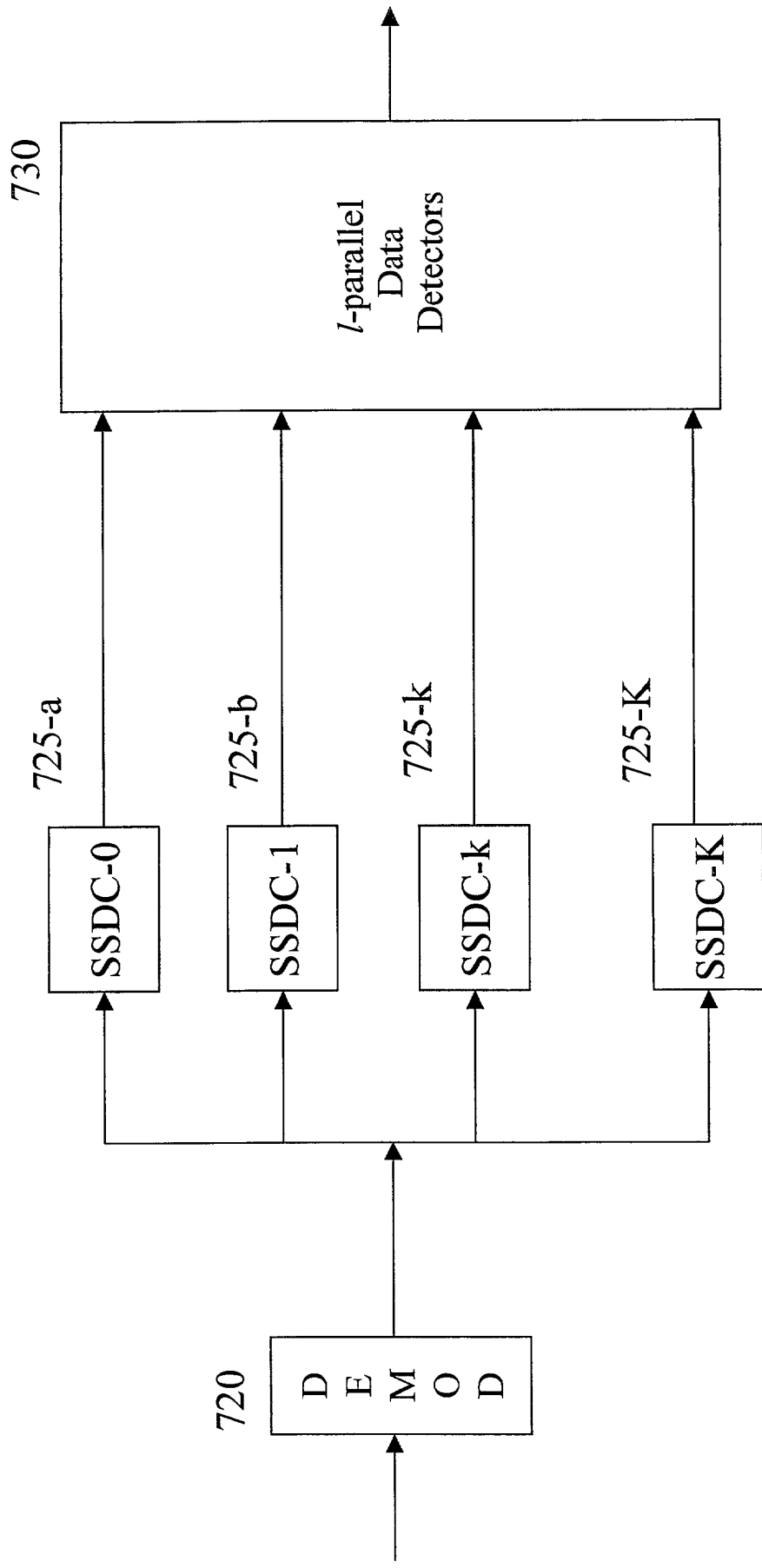
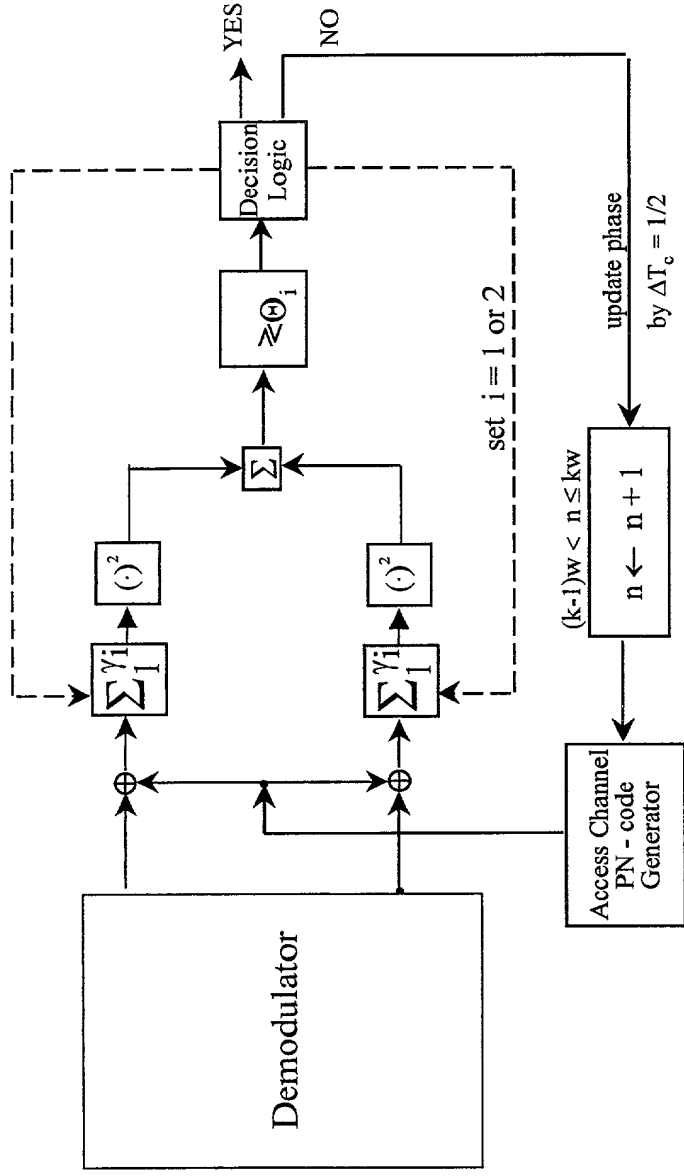


Fig. 7d

A.



B.

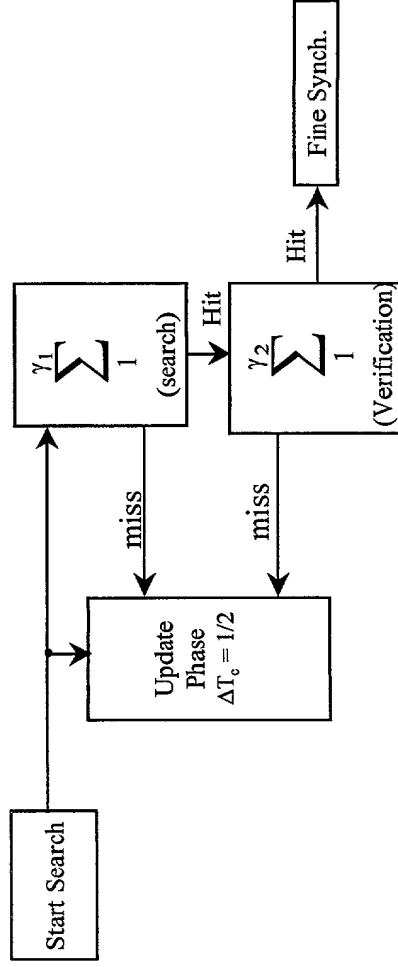


Figure 7e



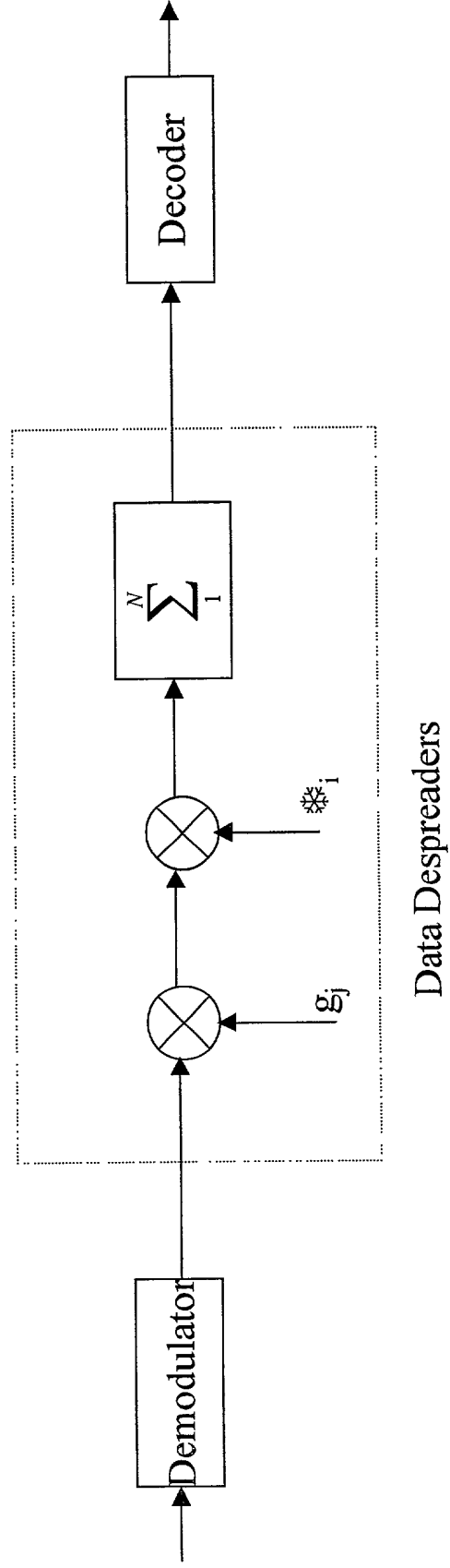


Fig. 7f

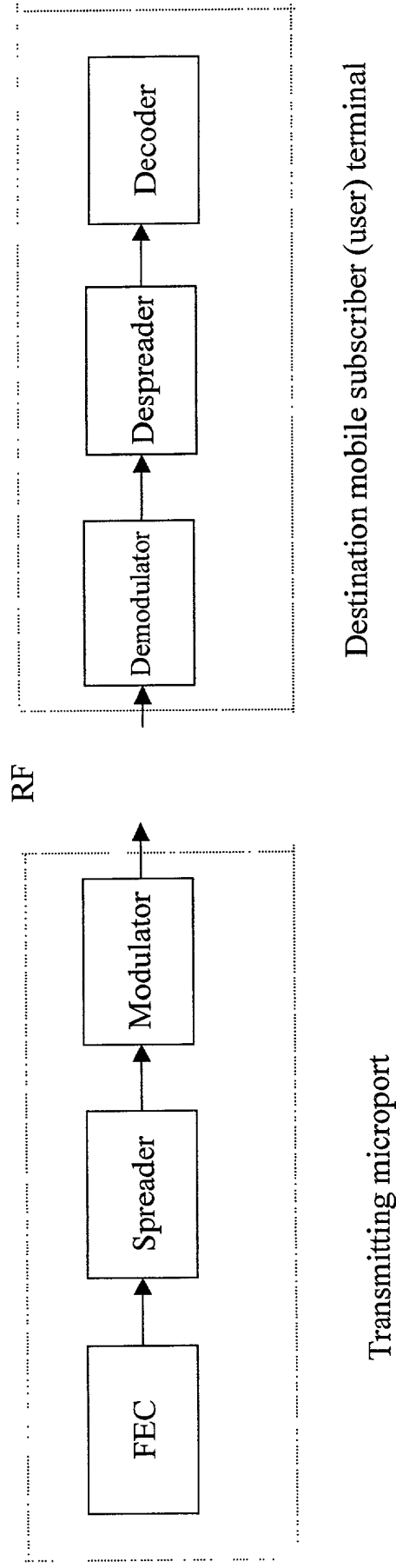


Fig. 8a

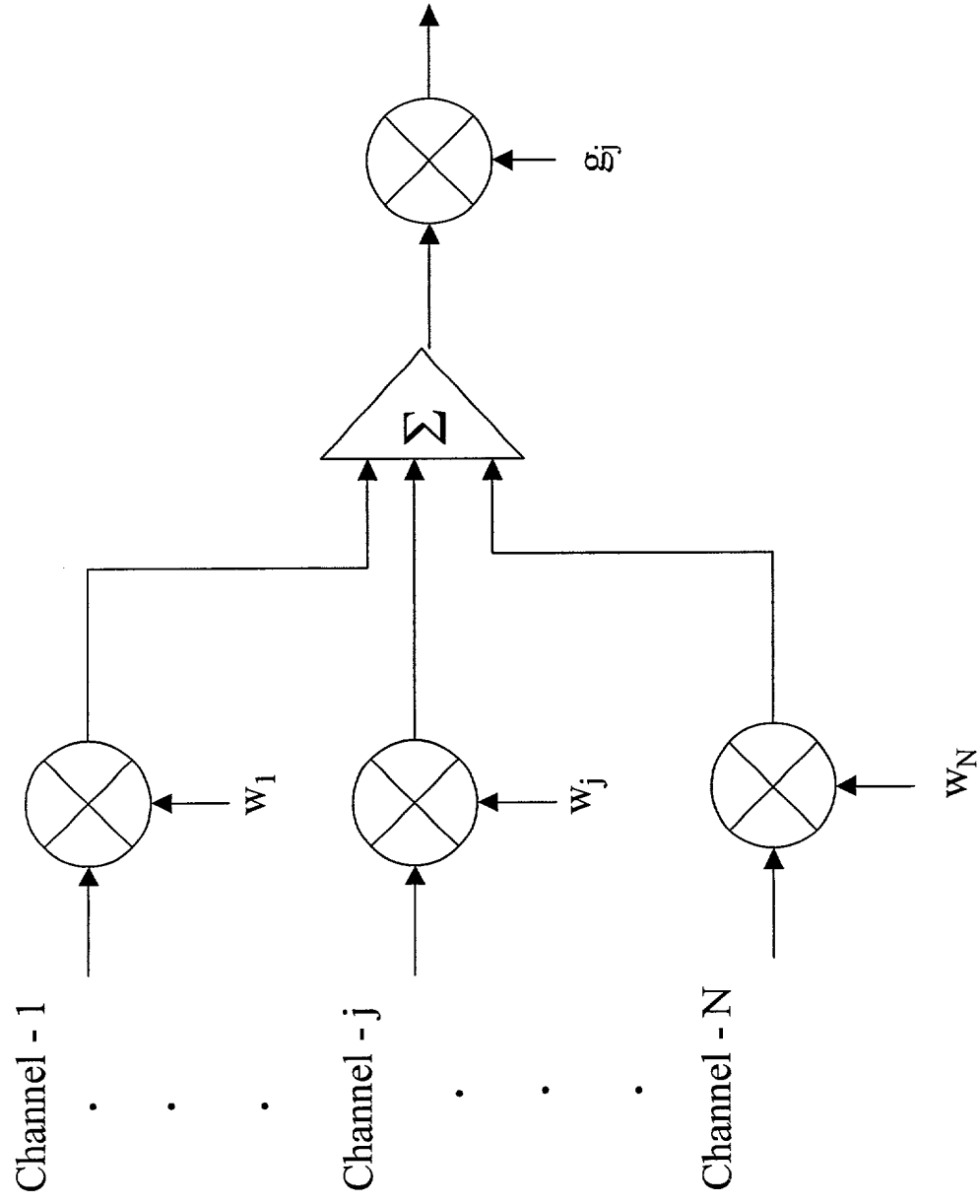


Fig. 8b

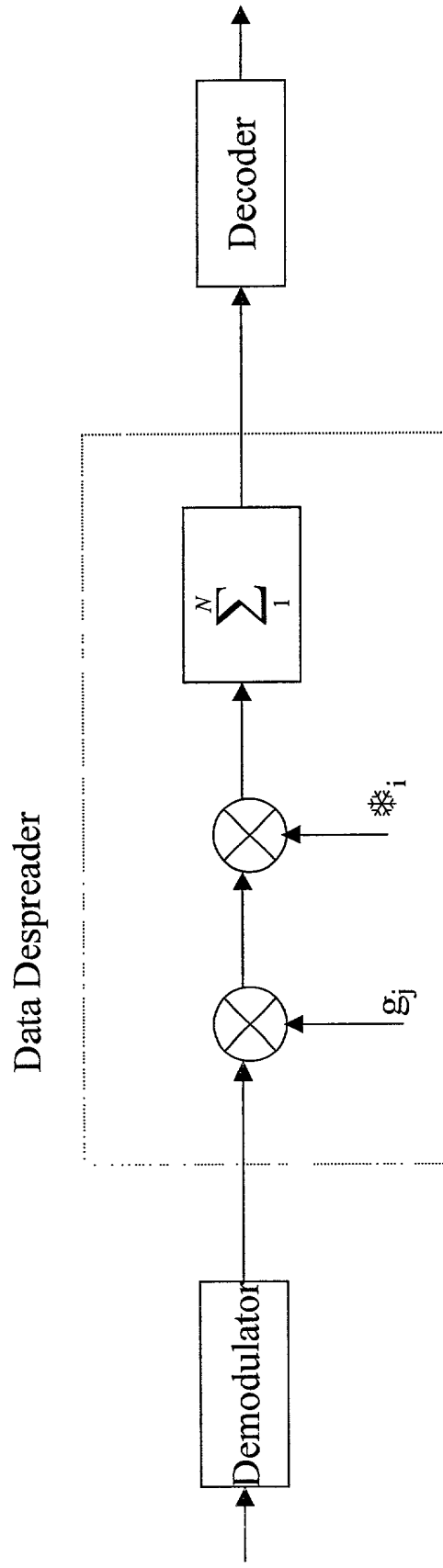


Fig. 8c